In its style the "Study of Sociology" somewhat disagreeably reminds the reader of one of Mr. Spencer's earliest works, "Social Statics." It has two main faults—it is needlessly polemical in its tone, and it is disfigured by numerous unscientific exaggerations of language. Mr. Spencer is undoubtedly right in defending against Mr. Arnold the superiority of the guidance of psychology and logic, over mere linguistic culture, in producing a style clear, forcible, and free from tautology. But there is neither psychological nor logical defence for the two faults indicated. Amongst minor faults of style may be enumerated an occasional laxity in the use of analogies; the degeneration of the psychologically sound practice of prefacing the enunciation of an important truth by a forcible illustration of it into a disagreeable mannerism, some very marked examples of which occur in the opening paragraphs of several of the chapters; the frequent occurrence of words ineuphoniously formed, to say the least of them, such as "re-revenge," "irrelation," "wholesaler;" and the over-abundant formation of compounds, especially noticeable in the compounding of the adjective and its qualifying adverb, as in "logically-conclusive," "profoundly-untrue," "equally-long."

Some of the defects pointed out are probably traceable to a desire to popularise the work as far as possible, in forgetfulness, to some extent, of the necessity to maintain the character which should appertain to it as one of a scientific series. But, while it is to be regretted that there should be such blemishes to mar the general effect of a book so full of suggestive thought and of appropriate illustrative facts, it must be allowed that the "Study of Sociology" forms a valuable addition to sociological literature, and leads the student in this department of human thought to anticipate with pleasure the appearance of the work to which it and the "Descriptive Sociology" are but forerunners.

W. H. BREWER

FRITSCH'S "SOUTH AFRICAN RACES"

Die Eingeborenen Süd-Afrika's, ethnographisch und anatomisch beschrieben. Von Gustav Fritsch. (Breslau: Hirt, 1872.)

IT is to be hoped that this work will have a good effect on the Science of Man, as a much-needed example which, once seen, will no doubt be followed. So far as the writer of the present notice is aware, the attempt at a systematic monograph of a race has never yet been made with so near an approach to success. With all our hundreds of volumes full of information as to the lower races of mankind, it is generally a difficult task for the ethnologist to piece together out of them anything like a complete picture of any tribe, with scientific fulness and accuracy of bodily, mental, social, geographical, and historical detail. Where, for instance, could he go for full information as to the two African races of whom Dr. Fritsch's work treats, the Kafirs and Hottentots?

The student's best source has been hitherto the conscientious dictionary-like summary, brief yet tedious, contained in 60 pages (Vol. II.) of Waitz's "Anthropologie der Naturvölker." The chapters in Mr. J. G. Wood's "Natural History of Man" are fuller and more life-like, but they are far too popular in topics as well as in style. Nor had either of these writers ever lived among the races about whom he compiled information. From a study of the descriptions drawn up by travellers, missionaries, and officials, who have known the Kafirs and Hottentots by personal knowledge, it is possible to get much of the information wanted, but how long will it take even to glance over the volumes of Shooter, Galton, Callaway, Hahn, Casalis, Grout, Maclean, Andersson, and a dozen more? Each other savage or barbaric race of the world demands in like manner the reading through of a small library, consisting mostly of miscellaneous literary matter, in which the ethnographic information is imbedded. The state of things is briefly this, that anthropological evidence is at present so bulky and so scattered, as to be

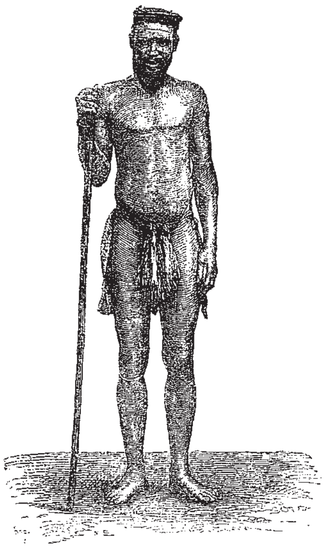

FIG. 1.—Zulu of Natal.

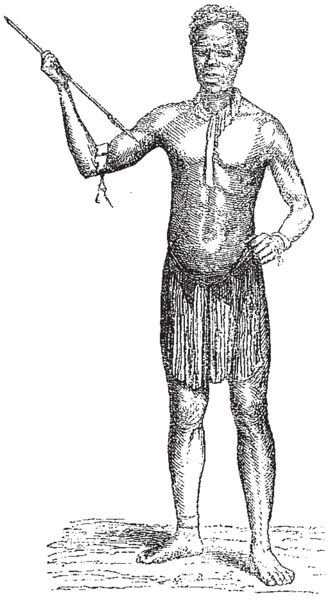

FIG. 2.—Young Kafir.

unmanageable except by those who can give half a lifetime to it. It is highly desirable to have the whole available knowledge as to each race condensed into a monograph like the present, by a competent ethnographer who knows that race by personal study in its home. It would be a real service to the ethnographers now at work drawing up accounts of native tribes in India and elsewhere, to put into their hands Dr. Fritsch's book as a model. As with all its excellencies of plan and execution, it is in many respects open to improvement, it would serve as a stepping-stone to yet more perfect works.

In popular language, the two indigenous races of South Africa are known as *Kafirs* and *Hottentots*, one the well-known Moslem term for "infidels" picked up by the Portuguese from the Arab traders of the sixteenth century, the other an imitative epithet, "hot-en-tot," given by the Dutch colonists to the tribes using "clicks" in their speech. Neither term is now satisfactory, and Dr. Fritsch is justified in adopting the native names by which the two races denote themselves. For the *Kafir* tribes he uses the term *Abantu*, *Bantu* (plural of *ntu*, a man), and for the *Hottentot* tribes their designation of *Koi-koin* (*i.e.* "men of men," from *koi*, a man).

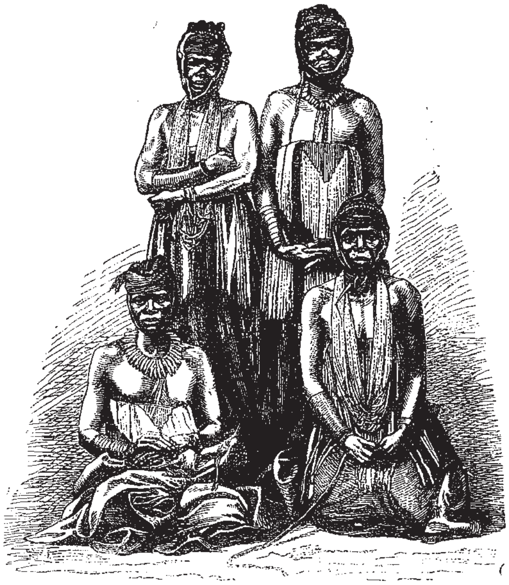

Fig. 3.—Sandili's Wives.

Dr. Fritsch, as a professed anatomist, examines with almost exhaustive minuteness the bodily characters of these two races. The closer appreciation of race-types, which is now supplanting the vaguer generalities of twenty years ago, is in no small measure due to the introduction of photographic portraits, instead of the old misleading sketches by artists unable to clear their minds of the artistic types of Europe. Without photography it would be impossible to obtain a collection of portraits such, for instance, as those lately published in Colonel Dalton's "Descriptive Ethnology of Bengal." The portrait engravings from South African photographs in Dr. Fritsch's album (unfortunately arranged on somewhat different dimensions from the volume it accompanies) are at the same high level of truth and art. When race-types are so well-marked as among these South African tribes, even small figures will show their principal physical peculiarities. A selection from the small-scale woodcuts in the main volume, likewise taken from photographs, are here produced from copies of the blocks lent by the publishers.

Figs. 1 and 2, representing a middle-aged and a young Kafir, show the characteristic slimness of the figure, due to the wall-sided chest and narrow hips. The lean fore-arm, a peculiar conformation of the deltoid and biceps, a somewhat finely-formed hand, and an ungraceful setting back of the lower extremities and inclination of the pelvis, are other points of speciality. The narrow skull is well seen in the figures, with the broad-winged flattened nose showing the nostrils in full face, the fleshy pouting lips, and the hair naturally felted. Add to this the deep-brown colour of the skin, which is shown in No. 1 of the specimen tints given in a table at the end of the volume, with the deep-brown eyes and black frizzy hair, and the total as nearly represents the ideal Kafir of the Ama-Xosa type as ethnologists can conceive it. Fig. 3, representing a group of wives of a chief,[*] shows with coarse distinctness the typical Bantu features.

In strong contrast with this Kafir type is that of the Koi-koin or Hottentots, including as one of its divisions the Bushmen. Whereas the dark-brown or almost black Zulu stands little short of 5 ft. 8 in., the Hottentot, whose brownish-yellow complexion has been compared to a dry leaf, averages only 5 ft. 3 in., and the tiny dirty-yellow Bushman under 4 ft. 8 in. Bearing in mind their yellow complexion and diminutive size, some idea of the Bushman type may be gained from Fig. 4. The high cheek-bones and pointed chin give the face its peculiar triangular shape, while the characteristic snub-nose is shown in the old Bushman, Fig. 5.

Dr. Fritsch justly observes that the Bantu and Koi-koin races have hardly any essential race-character in common, unless it be the crisped hair; and even this is generally (though not through all varieties) distinct, the Bantu hair being irregularly felted into a mass, whereas the Koi-koin hair grows in little tufts, which have been compared to the bristles of a blacking-brush. The steatopygy of the Hottentot-Bushman women is shown by an extraordinary collection of portraits in Dr. Fritsch's volume; few physical race-characters are more striking than this, and it is unfortunate that illustrations of it cannot be inserted here. As in other parts of their structure, so in cranial proportions the two races in question are markedly distinct, as is fully proved by the set of lithographed skulls with tabulated measurements. The Kafir skull is narrow and high, the proportion of length to breadth being about 100 : 71·9, while the height may be taken at 73·8, being thus slightly greater than the breadth. The Hottentot skull, on the other hand, is narrow and low, the proportion of length to breadth being about 100 : 72·7, while the height of such a skull might be only 71, which is less than the breadth. The Bushman skull shows this character in still more extreme proportions in a cranium whose length is 100, the breadth being 73·8, against a height of 70·2, which gives about double the difference of the Hottentot.

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[*] This group illustrates in a curious way the conventional but not irrational development of the ideal of beauty from the ordinary forms of normal life. This ideal once fixed among any nation, there ensues a desire to exaggerate it. In the present instance, in grown-up Kafir women, the tendency of the breasts to become long and pendulous is considered not contrary to beauty, and is accordingly artificially increased by binding down, as shown in the figure.

The elaborate anatomical data amassed by Dr. Fritsch may afford the means of more fully working out the ethnological problems of the South African races. The evidence here brought forward of the more extreme characters of the Bushman type as compared with the Hottentot, seems to tell in favour of the view put forward by Prof. Huxley some years ago, that the Hottentots are the result of crossing between the Bushman and the Negroid tribes. Beyond this, there naturally arises another question: do the Kafir tribes, with their complexions varying from dark-brown to blue-black, owe their bodily differences from the Negro of Equatorial Africa to an intermixture of Bushman blood during a long course of ages. The evidence of language is here important. So far as it is concerned, the Kafir of South Africa is essentially a Negro, for his dialects belong to the great series of prefixing languages, the peculiar character of which is so well shown in the formation of the plural. Just as the Mpongwe language of the Gaboon makes the plural of *omamba*, snake; *imamba*, snakes; and farther east the individual inhabitant of *Unyamwezi* is a *Mnyamwezi*, and the people as a whole are *Wanyamwezi*:—so in Zululand *umuntu* is a man; *abantu*, men; and *Amazulu* is the plural name of the nation of whom an individual is *Uzulu*. The Bushman-Hottentot, or Koi-koin group of languages, are on the other hand distinguished by their tendency to monosyllabic words, their suffixes, and the "clicks" which to so extraordinary an extent are used as consonants. According to Dr. Bleek's classification, this family of languages has also relations farther north on both sides of the Continent; but this is a point which requires further examination. Now, though the fundamental types of the Kafir and Bushman languages are so absolutely distinct, it has come to pass that certain of the Kafir tribes, notably the Zulus, use to some extent in their speech clicks of the Hottentot type, whereas nothing of the kind appears in the languages of their Negro kinsfolk of the equator. Did they catch this habit by mere imitation from the Hottentots and Bushmen, or, as seems more in accordance with experience, did Hottentot mothers in past generations teach it to children of a mixed race? This line of argument, it seems to me, may possibly lead to more definite results.

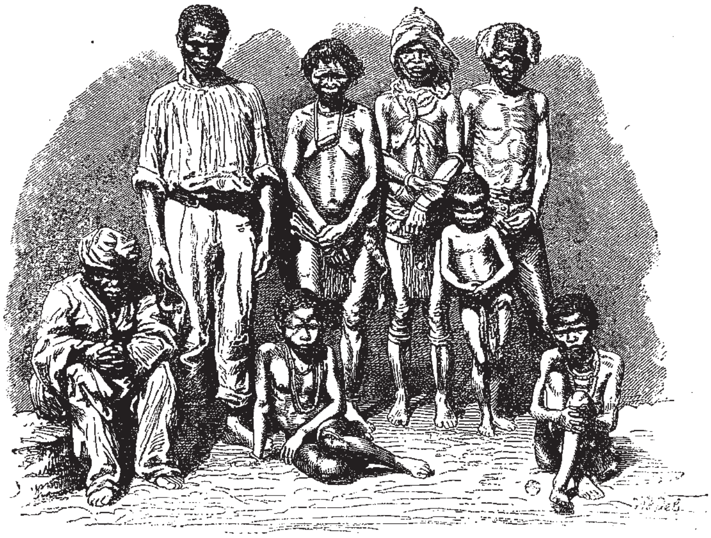

FIG. 4.—Bushmen of Orange River Republic.

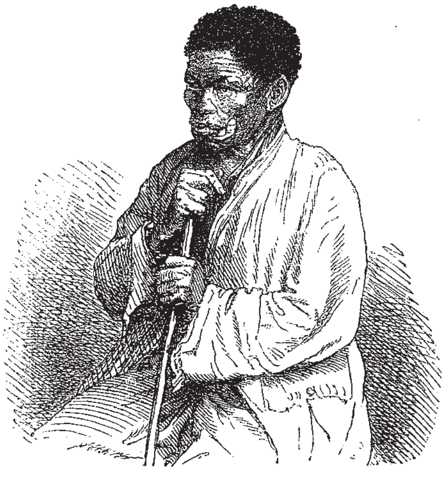

FIG. 5.—Bushman of West Colony.

Dr. Fritsch gives a valuable summary of information as to the industrial, social, and intellectual condition of the South African races. The latter is not, however, of such special excellence as the descriptions of physical race-characters. Indeed, Dr. Fritsch is on the whole a better judge of bodies than of minds. His account of the native religions is below his general level, as may be judged from his describing the Zulu religion without mention or apparently knowledge of the remarkable native documents collected by Dr. (now Bishop) Callaway, which throw such clear light not only on the religious ideas of these barbarians, but on the origin and development of religion among mankind at large. That savage theologies show representative stages in the evolution of human thought, and as such deserve and repay the most careful study of their inmost meanings, is a fact which is daily coming into clearer view among ethnologists, but it seems hardly to have entered Dr. Fritsch's mind. While mentioning this weak point of his, it is worth while to notice that a much fuller dissertation on the native languages, such, for instance, as Prof. Steinthal might have drawn up, would have been of interest to students whose wants are only partially supplied by the meagre though valuable classificatory sketch here given, mostly on the authority of Dr. Bleek. Our author also shows glimpses of ill-temper in dealing with authors he dislikes, such as Mr. J. G. Wood, whom he falls upon in season and out of season. An instance of the latter kind of attack is seen where Mr. Wood, speaking in perhaps too enthusiastic terms of the physical beauty of youthful savages, naturally introduced the well-known story of Benjamin West, the Quaker painter, comparing the Apollo Belvedere to a young Mohawk warrior. Dr. Fritsch, quite missing the point of the story, solemnly quotes Mr. Wood as asserting, in proof of the classical beauty of the

Kafirs, that "an American Quaker, West, took the statue of the Belvedere Apollo for the representation of a Mohawk Indian." Having made Mr. Wood talk this extraordinary nonsense, he then reviles him for being illogical. This is not the treatment Mr. Wood merits. No one denies the faults of his work, especially the unhappy straining after the picturesque which has made so many of his artist's illustrations worse than worthless. But his genial and suggestive descriptions of South African native life give a permanent value to his popular volume, while in his special line as a student of savage arts and implements, Dr. Fritsch can hardly expect to rival him.

Edward B. Tylor

LETTERS TO THE EDITOR

[*The Editor does not hold himself responsible for opinions expressed by his correspondents. No notice is taken of anonymous communications.*]

Flowers of the Primrose destroyed by Birds

For above twenty years I have observed every spring in my shrubberies and in the neighbouring woods, that a large number of the flowers of the primrose are cut off, and lie strewn on the ground close round the plants. So it is sometimes with the flowers of the cowslip and polyanthus, when they are borne on short stalks. This year the devastation has been greater than ever; and in a little wood not far from my house many hundred flowers have been destroyed, and some clumps have been completely denuded. For reasons presently to be given, I have no doubt that this is done by birds; and as I once saw some greenfinches flying away from some primroses, I suspect that this is the enemy. The object of the birds in thus cutting off the flowers long perplexed me. As we have little water hereabouts, I at one time thought that it was done in order to squeeze the juice out of the stalks; but I have since observed that they are as frequently cut during very rainy, as during dry weather. One of my sons then suggested that the object was to get the nectar of the flowers; and I have no doubt that this is the right explanation. On a hasty glance it appears as if the foot-stalk had been cut through; but on close inspection, it will invariably be found that the extreme base of the calyx and the young ovary are left attached to the foot-stalk. And if the cut-off ends of the flowers be examined, it will be seen that they do not fit the narrow cut-off ends of the calyx, which remains attached to the stalk. A piece of the calyx between one and two-tenths of an inch in length, has generally been cut clean away; and these little bits of the calyx can often be found on the ground; but sometimes they remain hanging by a few fibres to the upper part of the calyx of the detached flowers. Now no animal that I can think of, except a bird, could make two almost parallel clean cuts, transversely across the calyx of a flower. The part which is cut off contains within the narrow tube of the corolla the nectar; and the pressure of the bird's beak would force this out at both the cut-off ends. I have never heard of any bird in Europe feeding on nectar; though there are many that do so in the tropical parts of the New and Old Worlds, and which are believed to aid in the cross-fertilisation of the species. In such cases both the bird and the plant would profit. But with the primrose it is an unmitigated evil, and might well lead to its extermination; for in the wood above alluded to many hundred flowers have been destroyed this season, and cannot produce a single seed. My object in this communication to Nature is to ask your correspondents in England and abroad to observe whether the primroses there suffer, and to state the result, whether negative or affirmative, adding whether primroses are abundant in each district. I cannot remember having formerly seen anything of the kind in the midland counties of England. If the habit of cutting off the flowers should prove, as seems probable, to be general, we must look at it as inherited or instinctive; for it is unlikely that each bird should have discovered during its individual life-time the exact spot where the nectar lies concealed within the tube of the corolla, and should have learnt to bite off the flowers so skilfully that a minute portion of the calyx is always left attached to the foot-stalk. If, on the other hand, the evil is confined to this part of Kent, it will be a curious case of a new habit or instinct arising in this primrose-decked land.

Down, Beckenham, Kent, April 18 Ch. Darwin

Signor D'Albertis' and Dr Meyer's Discoveries in New Guinea

Having just returned to Europe, I read in Nature, vol ix. p. 77, a communication which contains an assertion of Dr. A. B. Meyer, to the effect that I did not cross New Guinea at all, and that he claims the honour of having done so himself.

From what Dr. Meyer says, the public are led to believe that I have claimed the honour of crossing this unknown and little-explored island; if he had read "A Month among the Papuans of Mount Arfâk," he might easily have ascertained that I never asserted this. There the reader will see that I only claimed to have penetrated the country to a distance of thirty miles, and to have ascended to a height of between 3,000 and 4,000 feet; but I *was* the first European to see alive and shoot many rare Birds of Paradise peculiar to New Guinea. One of these was entirely new to science, and has been called *Drepanornis albertisi* by Dr. Sclater (Nature, vol. viii. p. 305); it may be the same bird subsequently described as new by Dr. Meyer.

I have no wish to deprive the last-named gentleman of the honour of having crossed a greater or lesser portion of New Guinea, but I object most decidedly, either indirectly or by insinuation, to being deprived of the credit of being the first European to penetrate into the interior of that interesting country.

April 20 Luigi Maria D'Albertis

Spontaneous Generation

Mr. Ray Lankester's letter in last week's Nature affords fresh evidence of his lack of acquaintance with the several stages through which the "spontaneous generation" controversy has passed, or he would not now cite as a "most important result" only made known by recent experimentation, a fact which has been well known and repeatedly verified since the time of Spallanzani. I allude to the influence of the prolongation of the period of exposure to heat in retarding or altogether arresting the putrefactive tendencies of organic solutions. I have not thought it needful on previous occasions to point out the various misconceptions and the apparent ignorance of facts shown by Mr. Lankester in his querulous communications to your columns on the subject of "Spontaneous Generation." There are one or two points, however, to which I will now venture to solicit his attention, and that of your readers generally.

Mr. Lankester says:—"It is probably now familiar to those interested in the matter, that the experiments of Dr. Sanderson have established the fact that in an infusion of turnips and cheese prepared as directed by Dr. Bastian, heating to a temperature of 102° C. is sufficient to prevent the subsequent development of life (Bacteria) in the infusion, even when the exposure to that temperature is only maintained for a few minutes." To this statement I have to add that since the publication of the experiments above alluded to by Dr. Sanderson, I have heated flasks, sealed in the ordinary way and containing the fluid above mentioned, to a temperature of 105° C. for ten minutes in a chloride of calcium bath, and have found these fluids swarming with Bacteria after six days. I have also heated in the same manner simple neutralised turnip-infusion (filtered through cotton-wool instead of filtering paper) to a temperature of 105° C. for ten minutes, and by subsequently keeping these less putrescible fluids at a higher temperature (about 35° C.) they became turbid and swarmed with Bacteria in three days. Neither Dr. Sanderson's experiments nor those of Mr. Lankester and Dr. Pode have, therefore, the cogency which Mr. Lankester imagines them to possess. But, as I have endeavoured to point out on a previous occasion (Nature, vol. viii. p. 548), experiments of this kind at the present stage